

Forestland Interpretations

Forestland interpretations are important to good management. The management of trees begins with an understanding of the soil where they grow or are to be grown. Some soils are very suitable for growing wood crops; others barely support tree cover. Different tree species may vary in production on the same soil.

Forestland interpretations should be used to assist land users in planning, installing, and maintaining forestland management systems.

Forest Management and Productivity

The Forestland Management and Productivity tables presents information about suitable for producing timber for each soil map unit. Management concerns, which include hand planting, mechanical planting, use of harvesting equipment, mechanical site preparation (surface), roads (natural surface), erosion on roads and trails, off-road/trail erosion, soil rutting, log landings, seedling survival, are listed by ratings of:

- Not Limited (0.00)
- Slightly Limited (0.01 to 0.30)
- Moderately Limited (0.31 to 0.60)
- Limited (0.61 to 0.99)
- Very Limited (1.00)

Information on potential productivity includes plant competition, common trees, site index, productivity class, and trees to plant.

Management Concerns

PLANT COMPETITION - A rating of slight indicates little or no competition from other plants; moderate indicates that plant competition is expected to hinder the development of the fully stocked stand of desirable trees; and severe means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

POTENTIAL PRODUCTIVITY - This is discussed under the ordination class symbol.

COMMON TREES - Trees that generally occur on the soil are listed regardless of economic importance.

SITE INDEX AND PRODUCTIVITY CLASS - These are discussed under ordination class symbol.

TREES TO PLANT - Trees that are suitable for commercial wood production and that are adapted to the soil.

HAND PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

MECHANICAL PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

USE OF HARVEST EQUIPMENT – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

MECHANICAL SITE PREPARATION (SURFACE) – ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

ROADS (NATURAL SURFACE) – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

EROSION (ROAD/TRAIL) – ratings are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

EROSION (OFF-ROAD/OFF-TRAIL) – ratings are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

SOIL RUTTING – ratings are based on a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ratings indicate the hazard or risk of ruts in the uppermost soil surface layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

LOG LANDINGS – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and allows the efficient and effective use of equipment for the temporary storage and handling of logs.

SEEDLING SURVIVAL – ratings are based on flooding, ponding, a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

See the National Forestry Manual, Subpart B for criteria used in rating management concerns.

This subsection includes:

- **(a) Forest Management (one or two tables)**

Woodland Management and Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity			Suggested trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Plant competition	Common trees	Site index	Volume* of wood fiber	
									m3/ha	
15000: BASEHOR-----	2D	Slight	Slight	Moderate	Severe	Slight	common hackberry----	45	---	eastern
							green ash-----	45	2	redcedar,
							northern red oak----	40	2	shortleaf pine
							white oak-----	35	2	
15001: BASEHOR-----	2R	Severe	Moderate	Moderate	Severe	Slight	common hackberry----	45	---	black oak,
							green ash-----	45	2	common
							northern red oak----	40	2	hackberry
							white oak-----	35	2	
15002: MCGIRK-----	3W	Slight	Severe	Moderate	Moderate	Severe	white oak-----	55	3	eastern
							green ash-----	---	---	cottonwood,
							pecan-----	---	---	green ash,
										pecan, pin oak,
										sweetgum
40001: BOLIVAR-----	3D	Slight	Slight	Slight	Moderate	Slight	black oak-----	56	3	green ash,
							black walnut-----	---	---	shortleaf pine,
							northern red oak----	73	4	white oak,
							white oak-----	53	2	black oak
46000: HUMANSVILLE----	9W	Slight	Moderate	Moderate	Slight	Severe	eastern cottonwood--	100	9	eastern
							sycamore-----	---	---	cottonwood,
							silver maple-----	---	---	silver maple,
										pecan
66000: MONITEAU-----	4W	Slight	Severe	Moderate	Moderate	Severe	pin oak-----	70	4	eastern
							silver maple-----	---	---	cottonwood,
							eastern cottonwood--	---	---	green ash, pin
							green ash-----	---	---	oak, silver
										maple
66001: DAMERON-----	5A	Slight	Slight	Slight	Slight	Moderate	green ash-----	70	5	black walnut,
							American sycamore---	---	---	green ash,
							black walnut-----	72	---	pecan
							white oak-----	---	---	
70002, 70003: ALSUP-----	2A	Slight	Slight	Slight	Slight	Slight	black oak-----	51	2	black oak,
							northern red oak----	79	4	northern red
							white oak-----	---	---	oak, white oak
70004: ALSUP-----	2R	Slight	Slight	Slight	Slight	Slight	black oak-----	51	2	black oak,
							northern red oak----	79	4	northern red
							white oak-----	---	---	oak, white oak

See footnote at end of table.

Woodland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity			Suggested trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Plant competition	Common trees	Site index	Volume* of wood fiber m3/ha	
70005: BLUEYE-----	2A	Slight	Slight	Slight	Slight	Moderate	eastern redcedar----- blackjack oak----- post oak-----	35 --- ---	2 --- ---	eastern redcedar, post oak
MOKO-----	2X	Slight	Moderate	Moderate	Severe	Slight	eastern redcedar-----	30	2	eastern redcedar
70007: CLIQUOT-----	3F	Slight	Moderate	Slight	Slight	Moderate	black oak----- eastern redcedar----- post oak-----	55 30 50	3 2 2	black oak, eastern redcedar, shortleaf pine
70008, 70009: GOSS-----	3F	Slight	Slight	Moderate	Slight	Slight	white oak----- post oak----- black oak-----	60 --- ---	3 --- ---	white oak, black oak, shortleaf pine
70010: GOSS-----	3R	Slight	Moderate	Moderate	Slight	Slight	white oak----- post oak----- black oak-----	60 --- ---	3 --- ---	white oak, black oak, shortleaf pine
70011: GOSS-----	3R	Moderate	Moderate	Moderate	Slight	Slight	white oak----- post oak----- black oak-----	60 --- ---	3 --- ---	white oak, black oak, shortleaf pine
MOKO-----	2R	Slight	Moderate	Moderate	Severe	Slight	eastern redcedar-----	30	2	eastern redcedar
70012: HOBERG-----	3D	Slight	Slight	Slight	Moderate	Slight	white oak----- black oak----- shortleaf pine-----	60 --- ---	3 --- ---	white oak, black oak, shortleaf pine
70013: MOKO-----	2X	Slight	Moderate	Moderate	Severe	Slight	eastern redcedar-----	30	2	eastern redcedar
70014: MOKO-----	2R	Slight	Moderate	Moderate	Severe	Slight	eastern redcedar-----	30	2	eastern redcedar
ROCK OUTCROP.										
70015: PEMBROKE-----	3A	Slight	Slight	Slight	Slight	---	white oak----- black oak-----	60 ---	3 ---	black walnut, white oak
73000: POMME-----	3A	Slight	Slight	Slight	Slight	Moderate	northern red oak----- white oak-----	65 65	3 3	black walnut, shortleaf pine, white oak

See footnote at end of table.

Woodland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity			Suggested trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Plant competition	Common trees	Site index	Volume* of wood fiber m3/ha	
73002:										
OCIE-----	3F	Slight	Slight	Moderate	Slight	Slight	black oak----- northern red oak--- white oak-----	58 --- 57	3 --- 3	northern red oak, shortleaf pine
GATEWOOD-----	2A	Slight	Slight	Slight	Slight	Moderate	black oak----- eastern redcedar--- post oak----- white oak-----	42 40 43 45	2 3 2 2	eastern redcedar, shortleaf pine
73003:										
OCIE-----	3R	Slight	Moderate	Moderate	Slight	Slight	black oak----- northern red oak--- white oak-----	58 --- 57	3 --- 3	northern red oak, shortleaf pine
GATEWOOD-----	2R	Slight	Moderate	Slight	Slight	Moderate	black oak----- eastern redcedar--- post oak----- white oak-----	42 40 43 45	2 3 2 2	eastern redcedar, shortleaf pine
73004:										
OCIE-----	3R	Slight	Moderate	Moderate	Slight	Slight	black oak----- northern red oak--- white oak-----	58 --- 57	3 --- 3	northern red oak, shortleaf pine
73005:										
OCIE-----	3F	Slight	Slight	Moderate	Slight	Slight	black oak----- northern red oak--- white oak-----	58 --- 57	3 --- 3	northern red oak, shortleaf pine
73006:										
PERIDGE-----	4A	Slight	Slight	Slight	Slight	Severe	northern red oak--- black walnut----- eastern redcedar--- white oak-----	70 --- 50 ---	4 --- 4 ---	black walnut, northern red oak, white oak
73007:										
PLATO-----	3D	Slight	Slight	Slight	Moderate	Slight	black oak----- white oak-----	60 55	3 3	black oak, post oak, shortleaf pine
73008, 73009:										
VIRATON-----	3D	Slight	Slight	Moderate	Moderate	Slight	black oak----- white oak-----	60 55	3 3	black oak, shortleaf pine, white oak
73010:										
WILDERNESS-----	3D	Slight	Slight	Moderate	Moderate	Slight	black oak----- northern red oak--- white oak-----	63 64 56	3 3 3	black oak, shortleaf pine, white oak
74625:										
HARTVILLE-----	3C	Slight	Slight	Severe	Severe	Slight	white oak-----	55	3	eastern cottonwood, pin oak, tuliptree

See footnote at end of table.

Woodland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity			Suggested trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Plant competition	Common trees	Site index	Volume* of wood fiber	
									m3/ha	
75375: HORSECREEK-----	5A	Slight	Slight	Slight	Slight	Moderate	pin oak----- American elm----- American sycamore--- Shumard's oak----- common hackberry--- hickory----- white ash-----	94 --- --- 93 --- --- ---	5 --- --- 4 --- --- ---	black walnut, eastern cottonwood, tuliptree, white ash
75376: CEDARGAP-----	3F	Slight	Slight	Moderate	Slight	Moderate	black oak----- black walnut----- green ash-----	66 --- ---	3 --- ---	black oak, green ash
75377: RACKET-----	5A	Slight	Slight	Slight	Slight	Moderate	American sycamore--- black cherry----- black walnut----- northern red oak--- white ash-----	--- --- 72 --- ---	--- --- 5 --- ---	black walnut, northern red oak, white ash, tulip poplar
75378: STURKIE-----	6W	Slight	Slight	Moderate	Slight	Severe	American sycamore--- eastern cottonwood-- northern red oak--- white oak-----	80 100 80 70	6 9 4 4	American sycamore, black walnut, eastern cottonwood, northern red oak

* Volume is the yield in cubic meters per hectare per acre per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.